

We claim:

1. An application-specific integrated circuit comprising:

switch circuitry for receiving a data frame and forwarding it to a predetermined port;

inspection circuitry for inspecting attributes of the data frame;

10 decision circuitry for instructing the switch circuitry to forward the data frame based on the attributes.

2. The integrated circuit of claim 1 wherein the inspection circuitry is configured to inspect for wireless attributes and wherein the decision circuitry is configured to block non-wireless data frames from wireless ports.

15 3. The integrated circuit of claim 1 wherein the inspection circuitry is configured to determine whether a data frame is of higher priority than another data frame, and wherein the decision circuitry is configured to grant precedence in forwarding to the higher priority data frame.

20 4. The integrated circuit of claim 3 further comprising a queue for prioritizing data frames, so as to provide quality of service.

5 5. The integrated circuit of claim 1 further comprising protocol conversion circuitry
for translating the data frame between a first protocol and a second protocol.

6. The integrated circuit of claim 5 wherein the first protocol is an Ethernet network
protocol and the second protocol is a wireless protocol.

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7. The integrated circuit of claim 1 further comprising a memory map for storing
and retrieving data frames in a memory according to a data frame's address.

15 8. The integrated circuit of claim 7 further comprising circuitry for selectively
retrieving data frames based on priority.

9. The integrated circuit of claim 7 further comprising circuitry for translating data
frames between a first protocol and a second protocol

20 10. The integrated circuit of claim 9 wherein the first protocol is an Ethernet network
protocol and the second protocol as a wireless protocol.

11. An network switch comprising:
a plurality of ports for connecting to a plurality of network devices, for
25 exchanging data frames between at least some of the network devices;

5 a microprocessor-driven application-specific integrated circuit comprising
switch circuitry for receiving a data frame and forwarding it to a predetermined
port;

inspection circuitry for inspecting attributes of the data frame;

decision circuitry for instructing the switch circuitry to forward the data frame
10 based on the attributes.

12. The network switch of claim 11 wherein the inspection circuitry is configured to inspect for wireless attributes and wherein the decision circuitry is configured to block non-wireless data frames from wireless ports.

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13. The network switch of claim 11 wherein the inspection circuitry is configured to determine whether a data frame is of higher priority than another data frame, and wherein the decision circuitry is configured to grant precedence in forwarding to the higher priority data frame.

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14. The network switch of claim 13 further comprising a queue for prioritizing data frames, so as to provide quality of service.

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15. The network switch of claim 11 further comprising protocol conversion circuitry for translating the data frame between a first protocol and a second protocol.

16. The network switch of claim 15 wherein the first protocol is an Ethernet network
protocol and the second protocol is a wireless protocol.

17. The network switch of claim 11 further comprising a memory map for storing and
10 retrieving data frames in a memory according to a data frame's address.

18. The network switch of claim 17 further comprising circuitry for selectively
retrieving data frames based on priority.

15 19. The network switch of claim 17 further comprising circuitry for translating data
frames between a first protocol and a second protocol

20. The network switch of claim 19 wherein the first protocol is an Ethernet network
protocol and the second protocol as a wireless protocol.